

IN THE CLAIMS:

1 1. In a wireless data network, wherein there is provided radio data
2 communication between at least one access point and one or more mobile units, the
3 improvement wherein there are provided portable mobile paging units devoid of manual
4 data entry devices, said paging units being arranged to communicate with and associate
5 themselves with a selected access point of said system, and said paging units being
6 arranged to receive and display alphanumeric paging messages from said selected access
point and to signal receipt of a data message to the user.

2 2. The improvement specified in claim 1 wherein said mobile paging units
are arranged to send a message acknowledgment signal to said access point.

3 3. The improvement specified in claim 1 wherein said alphanumeric
4 paging messages include alternate message responses and wherein said mobile paging
units are arranged to enable a user to select a response from said alternate message
response and to communicate said response to said selected access point.

1 4. A simplified portable paging unit for use in a radio data
2 communications system having at least one access point for providing radio data
3 communications to a plurality of terminals, said paging unit being devoid of manual data

entry devices and comprising a radio module for providing said radio communications, a processor for associating said paging unit with an access point of said radio data communications system and a display; wherein said processor includes a program for displaying alphanumeric data messages received from said access point on said display; said paging unit including an annunciator coupled to said processor for signaling reception of an alphanumeric data messages.

5. A simplified portable paging unit as specified in claim 4 wherein said alphanumeric data messages include predetermined selectable reply messages, and wherein said paging unit includes means for selecting at least one of said reply messages, whereby said processor causes said radio module to transmit said reply message over said data communications system.

6. A simplified portable message unit in a radio data communication system having at least one access point for providing radio data communication to a plurality of mobile units, said message unit being devoid of manual data entry devices and comprising a radio module including a radio module programmed processor, said radio module programmed processor being programmed to evaluate signals received from said access points and to transmit signals to associate said message unit with one of said access points, said radio module programmed processor being further programmed to receive data messages and to provide said data messages to an interface module,

9 and a second programmed processor for retrieving said received
10 data messages from said interface module, for providing said data messages to a display
11 and for causing an annunciator to signal that a message has been received.

1 7. A message unit as specified in claim 8, wherein said second
2 programmed processor is arranged to respond to activation of control buttons to display
3 preselected messages on said display and to respond to activation of control buttons to
4 cause one of said messages to be provided to said interface module for transmission by
5 said radio module.

1 8. In a wireless data network, wherein there is provided radio data
2 communication between at least one access point and one or more mobile units, an
3 improved mobile communicator unit devoid of manual data entry devices, said
4 communicator unit including a display and a controller for providing plurality of
5 predetermined alphanumeric messages on said display, means for selecting at least one
6 alphanumeric message for transmission to said access point and a radio for transmitting
7 data corresponding to said selected message.

1 9. A mobile communications unit as specified in claim 8, wherein said
2 radio is arranged to receive alphanumeric data messages from said access point, provide
3 received messages to said controller for display on said display and wherein said

4 controller is arranged to signal receipt of said messages by an annunciator.

1 10. Mobile communications unit as specified in claim 9 wherein said
2 controller is arranged to monitor signals received by said radio from said access points
3 and to cause said radio to send signals associating said mobile communications unit with
4 a selected one of said access points.

1 N. An improved mobile scanning unit for use in connection with a radio
2 data communications system comprising a scanner for scanning optical codes, a
3 programmed controller for controlling said scanner and receiving data therefrom, a radio
4 module for data communications, a display and an annunciator, wherein said controller
5 is programmed to receive alphanumeric paging messages using said data communications
6 system, to provide said alphanumeric paging messages to said display and to operate said
7 annunciator to signal receipt of a paging message.

1 12. An improved mobile scanning unit as specified in claim 11 wherein
2 said controller is programmed to cause said radio module to send acknowledgment
3 signals in response to said paging messages.

1 13. An improved mobile scanning unit as specified in claim 11 wherein
2 said alphanumeric paging messages include alternate message responses and wherein

3 said controller is arranged to enable a user to select a response from said alternate
4 message responses and to cause said radio module to communicate said response over
5 said data communication system.

1 14. A mobile scanning unit as specified in claim 11 wherein said unit
2 comprises two housing which are arranged to be mechanically and electrically connected
3 to each other and wherein one of said housing includes said scanner and the other of
4 said units comprises said radio module and said display.

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1 15. A mobile scanning unit as specified in claim 11 wherein said
2 programmed controller receives image data from said scanner and to provide said image
3 data to said radio module for transmission over said data communications system.

1 16. A mobile scanning unit as specified in claim 11 further comprising a
2 decoder coupled to said scanner and providing decoded data to said radio module for
3 transmission over said data communication system.

1 17. A data communication unit for use in a data communications system,
2 comprising a programmed controller, a radio module, a first low resolution display and a
3 second high resolution display, wherein said controller is arranged to receive first
4 alphanumeric data messages and to display said first data message on said first display
5 and to receive second data messages, to display said second data messages on said

6 second display and signal said user to refer to said second display.

1 18. A method of providing voice communications using a packet data
2 communications system, comprising the steps of converting voice signals into a sequence
3 of data signals, assembling said data signals into data packets, transmitting said packets
4 over said data communication system, and sequentially converting data signals in said
5 stored data packets to voice signals.

1 19. A voice and data communication unit for use in a data communication
2 system having at least one access point comprising a radio module, a programmed
3 processor, a memory, a display, a data to analog converter and an audio output device
4 connected to said converter, wherein said processor is programmed to associate with a
5 selected access point of said system and receive data communications therefrom, said
6 communications including voice-encoding data signals and alphanumeric data signals and
7 said voice-encoding data signals to said converters and to display said alphanumeric data
8 signals on said display.

1 20. A voice and data communication unit as specified in claim 19, wherein
2 there is further provided a microphone and analog to data converter coupled to receive
3 audio signals from said microphone and supply voice-encoding data signals to said
4 processor, and wherein said processor is arranged to cause said radio module to transmit

5 said voice encoding data signals to said selected access points.

1 21. A mobile unit for providing voice messages over a data communication
2 system comprising a radio module for receiving data packets representing compressed
3 voice data, a processing module for converting said compressed voice data into
4 uncompressed voice data and an interface module for converting said uncompressed
5 voice data into sound representative signals.

1 22. A mobile unit as specified in claim 21 further comprising a
2 programmed controller interposed between said processing module and said radio
3 module for receiving alphanumeric data messages and for displaying said alphanumeric
4 message on a display said controller providing said compressed voice data to said
5 processing module.

1 23. A mobile unit as specified in claim 22 further arranged for sending
2 voice messages wherein said interface module is arranged to respond to sound
3 representative signals to provide uncompressed voice data, said processing module is
4 arranged to convert said uncompressed voice data into compressed voice data and said
5 radio module is arranged to receive and transmit packets of said compressed voice data.

6 24. A mobile unit as specified in claim 22, wherein said programmed

7 controller is further arranged to generate destination data for transmission by said radio
8 module with said compressed voice data.

1 25. A mobile unit as specified in claim 21 further arranged for sending
2 voice messages wherein said interface module is arranged to respond to sound
3 representative signals to provide uncompressed voice data, said processing module is
4 arranged to convert said uncompressed voice data into compressed voice data and said
5 radio module is arranged to receive and transmit packets of said compressed voice data.

6 26. A portable data collection unit comprising a first display for
7 displaying a low resolution image and a second display for displaying a high resolution
8 image.

9 27. The portable data collection unit of claim 26 further comprising a
10 display controller for selectively activating between said first and second displays.

11 28. The portable data collection unit of claim 27 wherein the display
12 controller maintains the first display active until a user command is entered to activate
13 the second display whereby the high resolution image is displayed on the second display
14 until the user command is deactivated, thereby avoiding consumption of electrical power
15 when said second display is not being viewed by a user.

16 29. The portable data collection unit of claim 28 further including a
17 high resolution image indicator confirming to a user that a high resolution image is
18 available for viewing in the second display.

19 30. The portable data collection unit of claim 29 wherein the user
20 command is a mechanical switch activated by a user.

21 ~~31.~~ A method for the two-way transmission of data by a data collection
22 unit, said method comprising the steps of:

- 23 (i) assigning a first Internet address to a two-way pager;
24 (ii) assigning a second Internet address to a data collection unit;
25 (iii) creating a source message from the data collection unit for the two-way
26 pager using the first Internet address;
27 (iv) attaching the second Internet address to the source message;
28 (v) transmitting said source message to the two-way pager having the
29 first Internet address through a packet switched network;
30 (vi) receiving said source message at said two-way pager and identifying
31 the first Internet address; and
32 (vii) retrieving a message on the two-way pager and transmitting said
33 stored message to the second Internet address over the packet switched network.

34 32. A two-way pager including a bar code reader and a bar code reader
35 activator for commencing a bar code reading operation.

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